



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/616,194	07/14/2000	Danke Mahesh Bhaskar	TI-28043	3909

7590 01/16/2004

Robert L Troike
Texas Instruments Incorporated
P O Box 655474 MS 3999
Dallas, TX 75265

EXAMINER

FOSTER, JUSTIN B

ART UNIT	PAPER NUMBER
----------	--------------

2624

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/616,194

Applicant(s)

BHASKAR, DANKE MAHESH

Examiner

Justin Foster

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The last phrase recites the phrase "using a base value and a gradient in both x and y directories." The Examiner is assuming for the purposes of this Office Action that Applicant intended to say --in both x and y directions--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harkin *et al.* (5,999,200) in view of White, *et al.* (5,918,225). With regard to claim 1, Harkin discloses a method of enhancing the rendering of pixels (column 7, lines 30-32) in the case of opcode ("opcode instructions", column 7, lines 32-36) using a lookup table ("lookup table 620", column 7, line 33). Harkin does not disclose the step of determining the maximum and minimum values of index, and expanding the lookup table opcodes over all values of index. White teaches, in lines 51-52 expanding a lookup table over all values of index. It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the maximum and

Art Unit: 2624

minimum values of index, and expand the lookup table opcodes over all values of index. This would provide more efficient use of the lookup table when indexes outside the original range were used.

3. With regard to claim 2, Harkin in view of White discloses the invention as stated in claim

1. It is inherent that the highest value of the lookup table should be replicated if the index is above the normal table area since this is the value associated with the index closest to the actual index inputted.

4. With regard to claim 4, Harkin in view of White discloses the invention as stated in claim

1. It is inherent that the lowest value of the lookup table should be replicated if the index is below the normal table area since this is the value associated with the index closest to the actual index inputted.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harkin and White, as applied to claim 1 above, and in further view of Steiner (4,862,392). The combination of Harkin and White discloses the invention as stated in claim 1. The combination does not disclose wherein said opcodes are for shading. Steiner teaches, in lines 18-27 of column 26, the use of opcode for a shading model. It would have been obvious to one of ordinary skill in the art at the time the invention was made for opcodes to be used for shading. This would improve shading quality by providing a more precise shading model.

6. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lung, *et al.* (5,533,175) in view of Harkin. With regard to claim 5, Lung discloses a printer (figure 2A) comprising a printing device (Engine Unit, figure 2A), a print controller (Printer Controller, figure 2A) for said printing device, said printer controller including means for interpreting

Art Unit: 2624

responsive to each line of source language to translate into machine language ("drawing commands and non-drawing commands ... are converted to print data", column 4, lines 13-16) and then execute ("printer driver generates print data", column 4, lines 16-18) and wherein a figure to be printed is divided into graphics rendering primitives ("bit map data", column 4, lines 16-18) and means for rendering ("rendering all types of drawing commands", column 4, lines 16-18) where each and every pixel in the primitive is a function of its position the primitive (inherent from "bit map data", column 4, line 18). Lung does not disclose that said means for rendering includes a lookup table that includes opcode values over all values of indexes wherein the index into the lookup table is calculated for every pixel using a base value and a gradient in both x and y directions. Harkin teaches, in lines 30-38 of column 7, the use of a lookup table for storing opcodes for use in rendering. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the means for rendering of Lung to include a lookup table that includes opcode values over all values of indexes wherein the index into the lookup table is calculated for every pixel using a base value and a gradient in both x and y directions. This would allow for more accurate rendering since the lookup table can store many values.

7. With regard to claim 6, Lung discloses a raster image processor for preparing data for raster output (inherent in printer, figure 2A) comprising an interpreter (printer driver, figure 2A) for translating source language into machine language ("drawing commands and non-drawing commands ... are converted to print data", column 4, lines 13-16) and dividing figure drawn into primitives ("rendering all types of drawing commands into bit map data", column 4, lines 16-18) and a rendering subsystem ("printer driver generates print data by rendering", column 4, lines 16-18). Lung does not disclose a means for generating an index for each pixel in each of said

Art Unit: 2624

primitives and a lookup table for the entire range of index values. Harkin teaches, in lines 30-38 of column 7, a lookup table used for rendering images. It is inherent that this lookup table has an index since all lookup tables have such an index. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the rendering subsystem of Lung to include a means for generating an index for each pixel in each of said primitives and a lookup table for the entire range of index values. This would allow for more accurate rendering since a lookup table can store many values.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lung and Harkin, as applied to claim 6 above, and in further view of White. The combination of Lung and Harkin discloses the invention as stated in claim 6. The combination does not disclose wherein said lookup table of said rendering subsystem has its highest and lowest values replicated above and below the normal table indexes so as to provide lookup table values for the entire range of indexes. White teaches, in lines 51-52 expanding a lookup table over all values of index. It is inherent that the highest and lowest values would be replicated above and below the normal table indexes during this expansion since the indexes to these values are closest to the indexes outside the original range. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the rendering subsystem to have its highest and lowest values replicated above and below the normal table indexes so as to provide lookup table values for the entire range of indexes. This would provide more efficient use of the lookup table when indexes outside the original range were used.

Conclusion

Art Unit: 2624

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Foster whose telephone number is (703)305-1900. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

JF



DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000